

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ingrid SCHEMMEL et al. **Confirmation No. 7650**
Appln No.: 10/830,003 Group Art Unit: 1793
Filed: April 23, 2004 Examiner: Weiping ZHU
For: COLD WORK STEEL ARTICLE

REPLY BRIEF UNDER 37 C.F.R. § 41.41(a)(1)

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief - Patents
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This Reply Brief is in response to the Examiner's Answer mailed April 14, 2008, the period for reply extending until June 16, 2008 (June 14 being a Saturday). If any extension of time is necessary, this is an express request for any necessary extension of time and authorization to charge any required extension of time fee or any other fees, which may be required to preserve the pendency of the present application, to Deposit Account No. 19-0089.

In the Examiner's answer, the grounds of rejection set forth in the Office Actions mailed August 8, 2007 and February 2, 2007 are maintained.

This Reply Brief is being filed under 37 C.F.R. § 41.41(a)(1) and is directed to the arguments presented in the Examiner's Answer, and therefore must be entered unless the final rejection is withdrawn in response to the instant Reply Brief. With regard to this Reply Brief, Appellants note that it is addressing points made in the Examiner's Answer mailed April 14, 2008 and is not repeating the arguments set forth in the Appeal Brief filed February 7, 2008.

Appellants respectfully submit that the Appeal Brief filed February 7, 2008 fully addresses the requirements for patentability of the pending claims. Accordingly, the present remarks are merely supplemental to the Appeal Brief. In order to facilitate review of the Reply Brief and for the sake of brevity, the present remarks do not include a discussion of all rejected claims or points raised by the Examiner, and as such, are not to be considered acquiescence to the Examiner's rejections or remarks. Indeed, the present remarks are intended to even further clarify aspects of Appellants' arguments that the Examiner appears to continue to misapprehend.

In the outstanding rejections, the Examiner alleges that all pending claims of the presently claimed invention are obvious over JP 2003-055747, hereinafter "JP '747." The Examiner asserts that JP '747 discloses a sintered tool steel having 0.8 to 2.5% C, 3 to 8% Cr, 1 to 10% Mo, 1 to 20% W, 1 to 7% V, \leq 15% Co, \leq 1% Si and \leq 1% Mn, which is not limited by the requirement of $2\text{Mo} + \text{W} = 15\text{-}30\%$, and therefore has overlapping ranges with the presently claimed composition. At the heart of the issues on appeal is the Examiner's position that " $2\text{Mo} + \text{W} = 15\text{-}30\%$ " is a *preferred aspect* of the JP '747 disclosure, whereas Appellants' position is that " $2\text{Mo} + \text{W} = 15\text{-}30\%$ " is a *requirement* that further limits the other disclosed ranges in JP '747.

Appellants respectfully submit that the error in the Examiner's argument is highlighted by positions taken in the Answer. Appellants respectfully refer to the Examiner's assertion that JP '747 "discloses the same utility in the whole disclosed ranges" (Examiner's Answer, page 3, lines 10-13), which assumes the limitation of $2\text{Mo} + \text{W} = 15\text{-}30\%$ is not included. Appellants respectfully submit that the JP '747 composition – without the limitation of $2\text{Mo} + \text{W} = 15\text{-}30\%$ – would include alloy compositions with *low* carbide content, which are clearly outside the intended utility of the alloy of JP '747. In this regard, Appellants refer to paragraph [0004] of the translation of JP '747 (provided by the Examiner with the Answer), which clearly states that the invention in JP'747 is directed to the improvement of tool steel with *high* carbide content:

The problem for this invention is to provide, *in tool steel with high carbide content*, a high-strength sintered tool steel with high-strength ultrafine grains and superior wear resistance and workability, by significantly

refining the martensitic structure and carbides *in comparison with conventional material.*"

Appellants also refer to the translation of paragraph [0009] of JP '747, which teaches that the elements "Mo and W both form carbides and are effective elements in conferring wear-resistance, raising strength and hardness and also improving heat-resistance by partially dissolving during quenching."

Appellants respectfully submit that the Examiner's interpretation of JP '747 as having 0.8 to 2.5% C, 3 to 8% Cr, 1 to 10% Mo, 1 to 20% W, 1 to 7% V, $\leq 15\%$ Co, $\leq 1\%$ Si and $\leq 1\%$ Mn, would not result in alloys with high carbide content. That is, unless limited by $2\text{Mo} + \text{W} = 15\text{-}30\%$, the alloy composition in JP '747 could vary from alloys having a very low carbide content to alloys with a very high carbide content. JP '747 clearly is not intended to produce alloy compositions with low carbide content. Thus, Applicants respectfully submit that the alloys of JP '747 must be considered to include the limitation of $2\text{Mo} + \text{W} = 15\text{-}30\%$, or else the entire point of its alleged novelty over prior compositions is rendered meaningless. For at least this reason, Appellants respectfully submit that the Examiner's interpretation of JP '747 is incorrect, and that reversal of the rejections is proper.

Appellants respectfully submit that the Examiner has taken a position that allows the rejection to be maintained, but which is based in fiction. In each and every instance in JP '747 where an alloy having 0.8 to 2.5% C, 3 to 8% Cr, 1 to 10% Mo, 1 to 20% W, 1 to 7% V, $\leq 15\%$ Co, $\leq 1\%$ Si and $\leq 1\%$ Mn is presented, *it is further limited by* the requirement that $2\text{Mo} + \text{W} = 15\text{-}30\%$. In no instance does JP '747 state that its invention is an alloy having 0.8 to 2.5% C, 3 to 8% Cr, 1 to 10% Mo, 1 to 20% W, 1 to 7% V, $\leq 15\%$ Co, $\leq 1\%$ Si and $\leq 1\%$ Mn, "and preferably," or "and in some preferred embodiments," or even "and in only the most preferred embodiments," $2\text{Mo} + \text{W} = 15\text{-}30\%$. It also does *not* state that it provides an alloy having 0.8 to 2.5% C, 3 to 8% Cr, 1 to 10% Mo, 1 to 20% W, 1 to 7% V, $\leq 15\%$ Co, $\leq 1\%$ Si and $\leq 1\%$ Mn, and that if one skilled in the art wished to increase the carbide content of the end product, then $2\text{Mo} + \text{W}$ "should be" 15-30%. Yet this is exactly the position the Examiner has taken in the rejection and in the Answer (see Answer, paragraph bridging pages 5-6).

Appellants respectfully submit that $2\text{Mo} + \text{W} = 15\text{-}30\%$ is as much a requirement of the alloy composition in JP '747 as is 0.8 to 2.5% C or 3 to 8% Cr or 1 to 10% Mo or 1 to 20% W or 1 to 7% V or $\leq 15\%$ Co or $\leq 1\%$ Si or $\leq 1\%$ Mn. The Examiner is no more allowed to ignore that requirement than he is to ignore any other component of the alloy composition as disclosed in JP '747. He is no more allowed to ignore that requirement than he is to make up a new range for any of the components of the composition as disclosed in JP '747. And he is no more allowed to ignore that requirement than he is to add a new element not present in the composition as disclosed in JP '747.

The Examiner's rejection relies entirely on his interpretation of JP '747 and his position that $2\text{Mo} + \text{W} = 15\text{-}30\%$ is merely a stated preference. He has provided no other reasoned basis for concluding that Appellants' claims are obvious over JP '747. Thus, if, as Appellants submit, $2\text{Mo} + \text{W} = 15\text{-}30\%$ is a requirement, and accordingly, there is no overlap in ranges, the Examiner's rejections must be reversed – the Examiner has provided no other basis for rejecting the claims as obvious.

In view of the foregoing remarks, as well as those points raised in the Appeal Brief, Appellants respectfully submit that the Office has failed to establish that the presently claimed invention is obvious over JP '747. Appellants respectfully submit that this is a fatal error in the outstanding Office Action, and that it alone is sufficient grounds for reversing all of the outstanding rejections.

Respectfully submitted,
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